



September 4, 2003

The Honorable Robert Pernell, Commissioner  
California Energy Commission  
Docket No. 03-BSTD-1  
1516 Ninth Street, MS-4  
Sacramento, CA 95814

RE: Proposed Revisions to the California Building Energy  
Efficiency Standards: Outdoor Lighting Standards

Dear Commissioner Pernell:

On behalf of 7-Eleven Inc., I write to express its concerns regarding the California Energy Commission's (CEC) proposed California Outdoor Lighting Standards. The following comments are submitted in response to the above-referenced regulatory proposal. Accordingly, I request that this submission be included in the CEC's official rulemaking file so that the CEC may review, consider, and respond to each objection or recommendation contained herein. Additionally, I request that this submission be incorporated into the record of this rulemaking proceeding so the Office of Administrative Law (OAL) may, if necessary, review it.

As you may know, there are approximately 1,200 7-Eleven stores in California that would be affected by the CEC's proposed outdoor lighting standards. Aside from compliance costs at these stores,<sup>1</sup> the principal concern of 7-Eleven Inc. is that the focus of the proposed regulations

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<sup>1</sup> Specifically, the new regulations would require an outdoor canopy to be completely redesigned, creating the very high cost of rewiring the canopy and patching and painting the canopy deck. All of this expense would ultimately result in reduced light levels well below the levels canopies have maintained for the last 25 years. This reduction of light (as opposed to energy consumption) will have a significant effect on public safety.

7-Eleven Inc. is that the focus of the proposed regulations is misplaced on the reduction of light *intensity* rather than energy consumption. As such, we believe that these regulations would detrimentally impact safety as well as increase our franchisees' liability.

First, we believe that these regulations would seriously undercut both customer and employee safety. It is imperative that clerks inside the store be able to see what is happening outside on the store premises. However, under the new regulations, the power density allowed *inside* 7-Eleven stores would create higher light levels than the area *outside* under canopies. At these levels, it would be impossible for a store clerk to monitor the activities outside the store due to the mirror images which would be projected on the store's glass walls. This would result in a situation in which a clerk could be unaware of an accident or a crime being committed outside the store.

As a result, we believe that these new regulations would create a tremendous liability for 7-Eleven stores. Drive off's, trips and falls, and products held for sale outside the store would all become fodder for lawsuits. For example, low light levels have already been used as the cause-of-fact for several lawsuits against retail establishments in the case of shootings, robberies, and trip-and-fall accidents. Consequently, insurance companies now analyze the additional liabilities associated with significantly-reduced light levels, and the level required by the proposed regulations would likely result in increased insurance premiums for many retail establishments. This fact is largely ignored both in the text of the regulations and the rulemaking record.

It is possible, as has been demonstrated over the years, to reduce energy consumption while maintaining outdoor lighting levels. In fact, the proposed regulation would end a 6-8 year effort undertaken by retailers and other industries to reduce energy consumption on their existing locations while maintaining light levels to address safety concerns. The safety value of well-lighted store premises should not be overlooked, as we believe these regulations do.

In addition, upon brief review of the proposed outdoor lighting regulations, it appears as though the CEC has failed to meet the relevant standards set forth in

Government Code Section 11349.1.<sup>2</sup> Specifically, the proposed regulation fails to meet the "necessity" standard, as defined in Government Code Section 11349(b),<sup>3</sup> and the "authority" standard as defined in Government Code Section 11349(b).<sup>4</sup>

Though the regulatory file is replete with testimonials and notes from various drafting workshops, there appears to be no credible scientific study supporting the need for these proposed regulations. Hence, the proposed regulations are not necessary according to the Government Code standard.

In particular, The Supplemental Report Outdoor Lighting Research Models, California Outdoor Lighting Standards, June 25, 2002 prepared for the CEC contains information and models which are contradictory to the Lighting Power Allowance for specific applications as found in Table 147-B, page 133 of the 2005 Building Energy Efficiency Standards, Express Terms, 45 day language. In the report dated June 25, 2002, under the section Outdoor Sales Canopies, a 40' x 60' canopy 17' high was modeled with (16) 150-watt metal halide downlights. The average illumination achieved by this system according to the CEC consultant was "maintained average of over 20 foot-candles with extremely uniform illumination." Other applications engineering departments have constructed this same model in AGI-32 and by inputting the identical design criteria have achieved a maintained average of 19.85, which is essentially identical to the CEC study results. The fixture watts for the 150-watt metal halide downlight is

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<sup>2</sup> See also Government Code Section 11342.2.

<sup>3</sup> Subdivision (a) reads: "Necessity means the record of the rulemaking proceeding demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute, court decision, or other provision of law that the regulation implements, interprets, or makes specific, taking into account the totality of the record. For purposes of this standard, evidence includes, but is not limited to, facts, studies, and expert opinion."

<sup>4</sup> Subdivision (b) reads: "Authority means the provision of law which permits or obligates the agency to adopt, amend, or repeal a regulation."

185 watts when ballast loss is included. Sixteen fixtures x 185 watts each produces a total connected load of 2,960 watts. This value (2,960 watts) when divided by the area of the canopy (40x60=2,400) yields a power density of 1.25 watts per square foot. This 1.25-watts/square foot power density allowance has been recommended by the consultants to the CEC as the value that should apply to gas stations and retail canopies that are located in lighting zone 3, which would include the majority of 7-Eleven stores in California.<sup>5</sup> In the staff report dated July 2003 it is stated that:

"The recommendations for allowed lighting power are based on current Illuminating Engineering Society of North America (IESNA) recommendations for the quality and design parameters of illumination, current industry practices..."

This statement is incorrect. Neither the IESNA or "current industry practice" would recommend that a retail canopy that is located in an urban environment should be designed utilizing 1.25 watts per square foot to achieve a maintained average illumination of 20 foot-candles. IESNA in its recommended practice RP-02-1, approved by the IESNA board of directors on March 3, 2001, states that the targeted maintained levels for a retail canopy located in an area where there is high illumination in the surrounding area should be 50 foot-candles. The IESNA in RP-02-1 goes on to define high illuminance surrounds as "high would be at the corner of a major intersection within an urban area or large community." This definition is consistent with the 2000 census description for lighting zone 3. Therefore the power density for lighting zone 3 should be increased to allow for the IESNA recommended illumination levels which are 2.5 times those values contained in the CEC model.

In sum, because the CEC model was based on incorrect supporting material, the resulting regulations are ill-conceived and illegal. Accordingly, the proposed regulations fail to meet the necessity standard as provided in the Government Code.

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<sup>5</sup> Lighting zone 3 is the highest geographical lighting zone that exists and is defined as "core census block groups or blocks that have a population density of at least 1,000 people per square mile" as designated by the 2000 census.

Finally, because the focus of the proposed regulations are primarily concerned about lighting level as opposed to energy consumption, they are outside the scope of the CEC's authority as provided in SB 5x. Specifically, section 4 of SB 5x, amending section 25402.5 of the Public Resources Code provides:

The commission shall adopt efficiency standards for outdoor lighting. The standards shall be technologically feasible and cost-effective.

As mentioned above, these regulations, if adopted as currently drafted, will stop an 8 year trend of voluntary reduction in energy consumption by many retail facilities in California. If adopted there will be a negligible amount of energy conservation on newly constructed retail establishments, while the current practice of upgrading existing 400 watt non cut-off fixtures with either 320 watt or 250 watt non cut-off fixtures will stop.

Unfortunately, many retailers will not invest in energy-saving lighting systems that restrict the type of fixtures they can use. Instead, they will choose to only clean and relamp their existing equipment and the opportunity to reduce the energy consumption in outdoor lighting in California's existing 1,200 7-Eleven stores will be lost. Moreover, the regulations are not cost effective in that many retail establishments, 7-Eleven stores included would be required to upgrade current canopy lighting at a significant cost while likely experiencing increased insurance premiums as a result of lower levels of lighting. For these reasons, the CEC proposed regulations fall outside the "energy efficient" and "cost effective" mandates provided in SB 5x, and thus are outside the scope of the CEC's authority.

I urge the commission to consider these concerns mentioned above as it proceeds with this regulatory proposal.

Sincerely,

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Dr. Mark Morgan, Corporate Engineer  
Manager Stores Engineering